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AUTHOR Hodgkinson, Harold L.
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ABSTRACT

This report is a demographic study of the United States education system from kindergarten through post-graduate education. Part 1 provides a briefing on the major demographic trends that form the framework of the analysis in terms of: (1) number of births in different groups; (2) rate of age increase in various groups due to varying birth rates; (3) changes in family status; (4) differences in educational needs by region; and (5) education, including educational supply and job demand, and the growing need for day care and early childhood programs such as Head Start. Part 2 concerns the retention of students through the school system to high school graduation. Part 3 concerns the accessibility of college to different socioeconomic groups. Part 4 discusses retention of students through college graduation in the context of the number of years it takes students to reach that goal. Throughout, suggestions are offered on how to deal with the impact of increased minorities in the educational system and how best to structure curricula to better educate the population as a whole. (CG)

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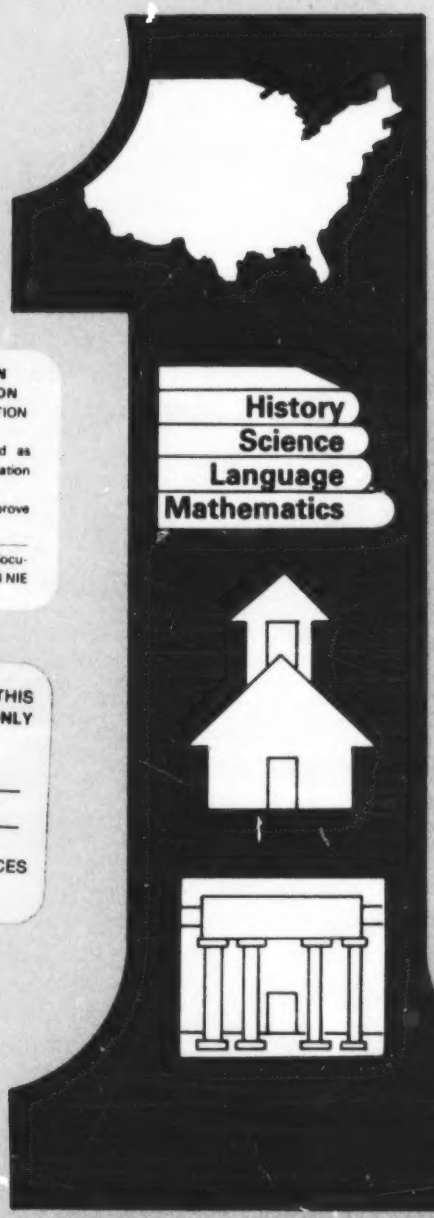
All One System



Demographics of Education, Kindergarten through Graduate School

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ALL ONE SYSTEM:

Demographics of Education— Kindergarten Through Graduate School

Harold L. Hodgkinson
Institute for Educational Leadership

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It is a pleasure to record my debt to Mike Usdan and the Institute for Educational Leadership for intellectual, logistical and moral support. Andrew Krieger was very helpful in assembling materials while Louise Clarke facilitated office matters.

The ideas herein are hardly unique, the relations between them, however, are relatively unusual. Frank Newman, Ed Meade, Scott Miller, Bob Payton, Virginia Hodgkinson, the Forum of Education Organization Leaders, and the Higher Education Secretariat have all contributed to my education. Although the project was supported by the Exxon Education Foundation, and that support is gratefully acknowledged, the responsibility for the content of this report rests with the author.

Harold L. Hodgkinson
Washington, D.C.
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Institute for Educational Leadership, Inc.
1001 Connecticut Avenue, N.W., Suite 310
Washington, D.C. 20036 (202) 822-8405

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Introduction

In the beginning of this report, it is important to inform the reader of one of the major perceptual assumptions behind it. Almost everyone who works in education perceives it as a set of discrete institutions working in isolation from each other. These institutions restrict the age range of their students:

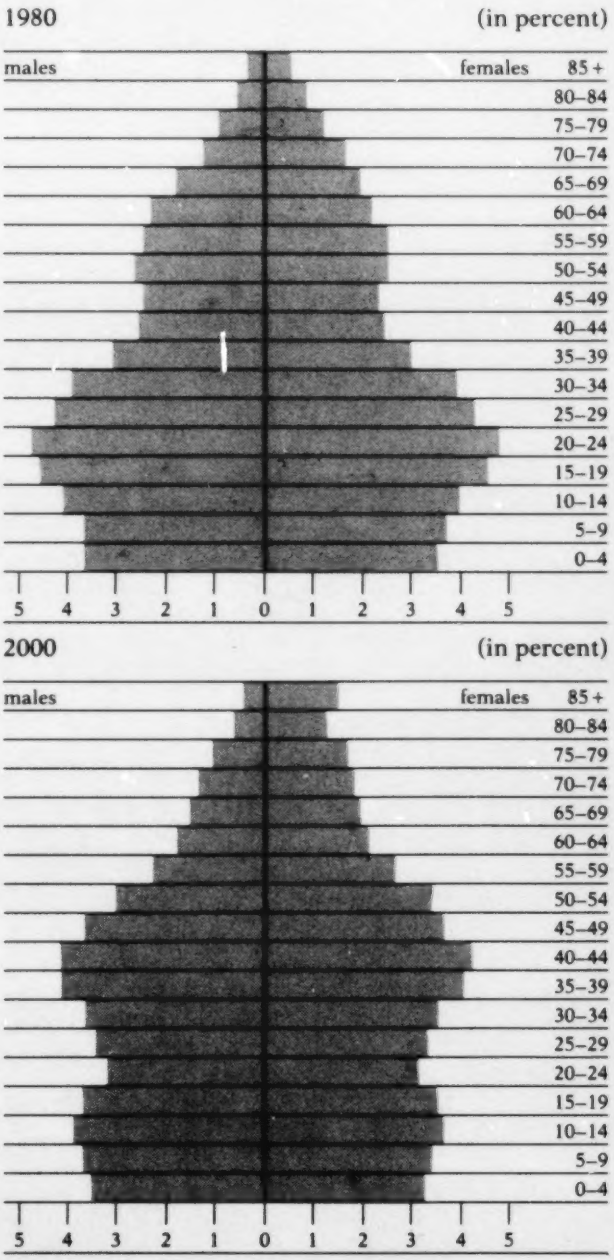
Nursery schools
Day care centers
Kindergartens
Elementary schools
Junior High Schools
Senior High Schools
Two Year Colleges
Four Year Undergraduate Colleges
Universities with Graduate Programs
Post-Graduate Institutions

People working in each of the above institutions have virtually no connection with all the others and little awareness of educational activity provided by the total. Because of this, the school is defined as the unit, not THE PEOPLE WHO MOVE THROUGH IT. The only people who see these institutions as a system are the students—because some of them see it all. Striking as it seems, virtually all graduate students completed the third grade at an earlier time in their lives. It is our conviction that we need to begin seeing the educational system from the perspective of the people who move through it. This is because changes in the composition of the group moving through the educational system will change the system faster than anything else except nuclear war.

This report is mostly about demographics—changes in population groupings in the U.S. This is a relatively new science (Kenneth Boulding says "Of all the social sciences, demographics is most like the science of celestial mechanics"—we look for the huge unseen engines that make social systems work in certain ways). Demographics provides a truly new perception of educational systems as people in motion. By knowing the nature of those coming into first grade in the U.S., one can forecast with some precision what the cohort of graduating high school seniors will be like twelve years later, and can reveal with very little error what the entering college class will look like in the 13th year. Imagine economists predicting the Dow-Jones 13 years ahead!

It is assumed that if people can begin to SEE the educational system as a single entity through which people move, they may begin to behave as if all of education were related. It seems self-evident that such a perception is good. The educational continuum is much like any other. The concept of a food chain in ecology suggests that any alteration in the food chain will affect all the organisms at all points on the chain. Similarly, the Baby Boom of 70 million people born between 1946 and 1964 moved through the education system like a very large mouse going through a very small snake—each educational institution had to expand enormously as the Baby Boom came through, then contract with equal severity as the Baby Boom aged and passed on. Changes as drastic as the Baby Boom now await us.

Exhibit 1
The Baby Boom Ages



(*AMERICAN DEMOGRAPHICS*, JAN. 1983).

Many changes are taking place now in the numbers and composition of the birth and immigrant groups that are beginning to enter elementary schools. These changes will necessarily occupy the educational system for at least the next twenty years. By knowing who is entering the system, and how well they are progressing, everyone at all levels will have time to develop effective programs for the maximum educational gains of all students.

It is our conviction that we need to begin seeing the educational system from the perspective of the people who move through it.

As a result of such knowledge, we educators may yet begin to think of educators at other levels in the "chain" as colleagues. In businesses, when Sales does well, Research and Development cheers, and vice versa. It is vital to Sales that R&D does well—they need each other's success for the success of all. But when elementary reading scores in big city schools go up (as they have almost universally for the last seven years), one has to listen very carefully before it's possible to discern anyone cheering at any university, even though it would be in their self-interest to do so. Similarly, our rapidly aging white middle class will find its retirement income generated by an increasingly non-white work force—a small cheer for increasing educational and occupational attainments by minorities would seem to be in order!

This report is in part a demonstration of the dependency of each educational level for the others. It is hoped that this discussion will be stimulating and beneficial to those who read this report and think about it.

ORGANIZATION:

This report is organized along four major dimensions:

1. Briefing on major demographic trends
2. Retention to high school graduation
3. The transition from school to college
4. Completion of college programs

These seem to be four major characteristics of the educational continuum, in that changes in any one will create changes in the other three. There is literature dealing with each of our four individual dimensions, but there are few models for our attempt to put the four together.

Part One: Briefing on Major Demographic Trends

Before starting on the four themes, it may be useful to describe the demographic changes that form the framework of our analysis.

1. BIRTHS: one of the major tools of demography is differential fertility—some groups have a lot more children than others, and thus are over-represented in the next generations. For example, it is clear that Cubans (1.3 children per female) and whites (1.7 children per female) will be LESS numerous in our future—a group needs about 2.1 just to stay even, which is the case for Puerto Ricans. However, Blacks (2.4), and Mexican-Americans (2.9) will be a larger part of our population in the future. All these young people have to do is GROW OLDER and we have the future. In attempting to explain differences in birth rates by region, we need to keep in mind that these regional differences are mostly ethnic—increased birth rates in the "Sun Belt" are due to a large degree by minority births, while "Frost Belt" declines are caused by the white populations. See Exhibit 2 on page 4.

2. AGE: Mostly because of varying birth rates, the average age of groups in the U.S. is increasingly various—the 1980 Census reveals that the average white in America is 31 years old, the average Black 25, and the AVERAGE Hispanic only 22! It should be easy to see that age produces population momentum for minorities, as the typical Hispanic female is just moving into the peak childbearing years, while the average white female is moving out of them. This is why California now has a "majority of minorities" in its elementary schools, while Texas schools are 46% minority, and half the states have public school populations that are more than 25% nonwhite, while all of our 25 largest city school systems have "minority majorities."

By the year 2020, most of the Baby Boom will be retired, its retirement income provided by the much smaller age groups that follow it. This is a demographic argument, not an economic one. But if larger numbers are taking out, and much smaller numbers are putting in, the economics are rather clear. For example, in 1950 seventeen workers paid the benefits of each retiree. By 1992, only three workers will provide the funds for each retiree and one of the three workers will be minority.

It is also clear that for the next decade, the only growth area in education will be in adult and continuing education, with increases in elementary schools in certain regions. Perhaps more important is that in 1983 there were more people over 65 in America than there were teen-agers, and (because of the Baby Boom growing old) that condition remains a constant for as long as any of us live. America will simply not be a nation of youth in our lifetime. This is why by 1992, half of all college students will be over 25 and 20% will be over 35.

The mostly white Baby Boom, on the other hand, represents 70 million people who are middle-aged during the 1980's. During the 80's, age groups will exhibit the following changes:

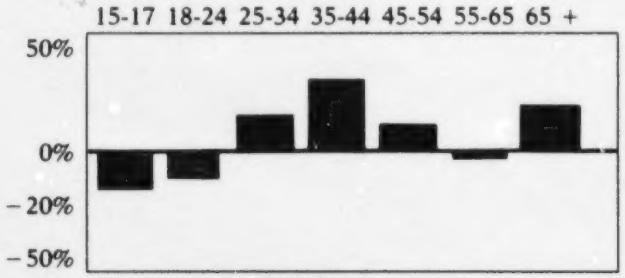


Exhibit 3
Age Group Changes During The 1980's

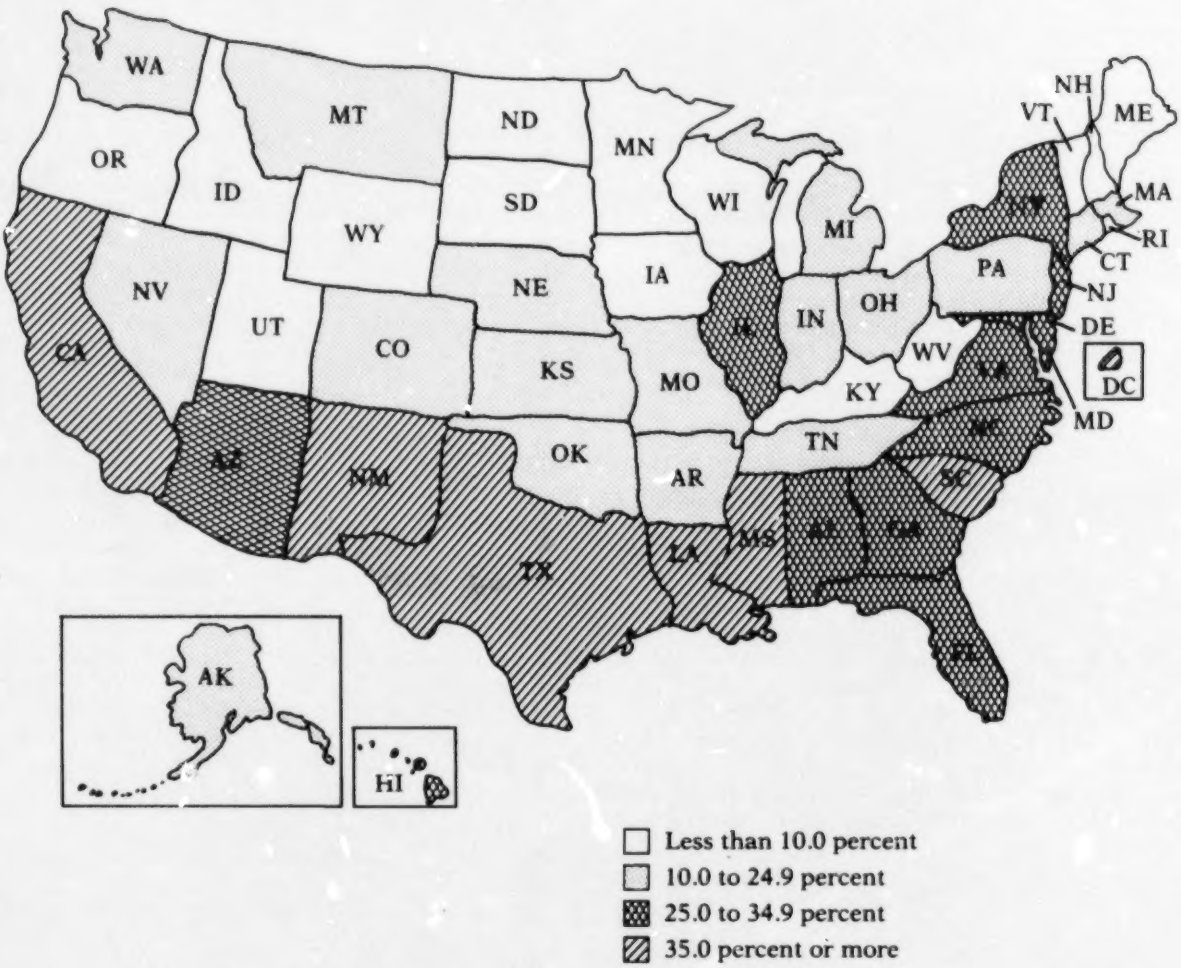
3. FAMILY STATUS: Major changes have taken place in the ways we live together. In 1955, 60% of the households in the U.S. consisted of a working father, a housewife mother and two or more school age children. In 1980, that family unit was only 11% of our homes, and in 1985 it is 7%, an astonishing change.

More than 50% of women are in the work force, and that percentage will undoubtedly increase. Of our 80 million households, almost 20 million consist of people living alone. The Census tells us that 59% of the children born in 1983 will live with only one parent before reaching age 18—this now becomes the NORMAL childhood experience. Of every 100 children born today:

- 12 will be born out of wedlock
- 40 will be born to parents who divorce before the child is 18
- 5 will be born to parents who separate
- 2 will be born to parents of whom one will die before the child reaches 18
- 41 will reach age 18 "normally"

The U.S. is confronted today with an epidemic increase in the number of children born outside of marriage—and 50% of such children are born to teenage mothers. Although the percentage of Black teenage girls who have children outside of marriage is higher than that of white girls, comparisons with other nations indicate that a white teen-age female is twice as likely to give birth outside of marriage as in any other nation studied. The situation is most striking with very young mothers, age 13 and 14. Indeed, every day in America, 40 teen-age girls give birth to their THIRD child. To be the third child of a child is to be very much "at risk" in terms of one's future. It appears that sexual activity among the young is no more frequent here than elsewhere; the major difference is the inability of American youth to get access to informa-

Exhibit 2
Minority Enrollment as Percent of Public Elementary/Secondary School Enrollment, by State



Percent minority enrollment in public elementary secondary schools was generally greatest in the Southern and Southwestern States and in California. The percent black enrollment was highest in the Southern States while the percent Hispanic enrollment was highest in New Mexico, Texas, California, and Arizona.

(The Condition of Education, 1984 edition. A Statistical Report by the National Center for Education Statistics.)

tion about contraception. Information about abortion is similarly restricted, although the variations across states are wide—Mississippi reports 4 abortions per 1,000 teen-age live births, while New York reports 1,200 abortions compared to 1,000 teen-age live births.

There is a particular aspect of this situation that is vital—teen-age mothers tend to give birth to children who are premature, due mostly to a lack of physical examinations and to their very poor diet while pregnant. Prematurity leads to low birth weight, which increases these infants' chances of major health problems due to the lack of development of the child's immune system. Low birth weight is a good predictor of major learning difficulties when the child gets to school. This means that about 700,000 babies of the annual cohort of around 3.3 million births are almost assured of being either educationally retarded or "difficult to teach." This group is entering the educational continuum in rapidly increasing numbers.

Indeed, every day in America, 40 teen-age girls give birth to their THIRD child.

Several other family factors are important to cite—first, with over half of the females in the work force (and almost 70% if you only consider "working age" women), the number of "latch-key children"—those who are home alone after school when adults are not present—has shown a major increase and will continue to do so, as women increasingly opt for work AND children. (Of those mothers of one-year-olds, half have already returned to work.) The typical pattern for women today is (1) get settled in a job, (2) get married, and (3) have children, as opposed to the previous pattern of entering the work force only after the children were mature enough to fend for themselves. There are at least four million "latch-key" children in the U.S. of school age. Many of them think of home as a dangerous, frightening place, particularly if there are no other children in the home. They "check in" with parents by phone. They spend many hours watching TV and talking to their friends on the phone, and have to make decisions about knocks on the door and phone calls from strangers. The evidence is not yet in, and some children may benefit from having family responsibilities while home alone, but many others become problems at school.

There is some very good news also—there is today a solid and relatively well-established Black middle class family structure in the U.S. Access to the political structure has yielded 247 Black mayors in the U.S., and 5,606 Black elected officials in 1984, along with 3,128 elected Hispanic officials. Forty-four percent of the entering freshman class at the University of California, Berkeley in fall, 1984 was minority, while Harvard's entering class was 20% minority. In some major American cities, Blacks have been able to move to the suburbs. Here are the ten highest rates:

	Blacks in Metro Area	Blacks in Core City	Blacks in Suburbs	
Miami	281,000	87,000	194,000	(69%)
Newark	406,000	191,000	215,000	(52.9%)
D.C.	870,000	448,000	422,000	(48.5%)
L.A.	943,000	504,000	439,000	(46.5%)
Atlanta	525,000	283,000	242,000	(46%)
Oakland	263,000	159,000	104,000	(39.5%)
St. Louis	319,000	206,000	113,000	(35.4%)
Birmingham	240,000	158,000	82,000	(34.1%)
Philadelphia	883,000	638,000	245,000	(27.7%)
Cleveland	345,000	251,000	94,000	(27.2%)

This is not to say that suburban housing is not segregated, but simply that there is more choice available in the system today. One unfortunate thing is that the percentage of Black two-income families is declining as a percent of all Black households, meaning that Blacks now distribute themselves over a much wider socioeconomic range than in the past. (Politicians seeking "The Black Vote" will have to be very careful in the future, as will politicians courting any supposedly "special interest group.") Between 1970 and 1980, the percentage of women, as well as minorities, in professional and managerial jobs virtually doubled. See Exhibit 4.

There can be little doubt that affirmative action programs were responsible for at least some of these gains—firms doing business with the Federal government increased their minority work force by a fifth, while firms not doing business with the government increased minorities by only an eighth.

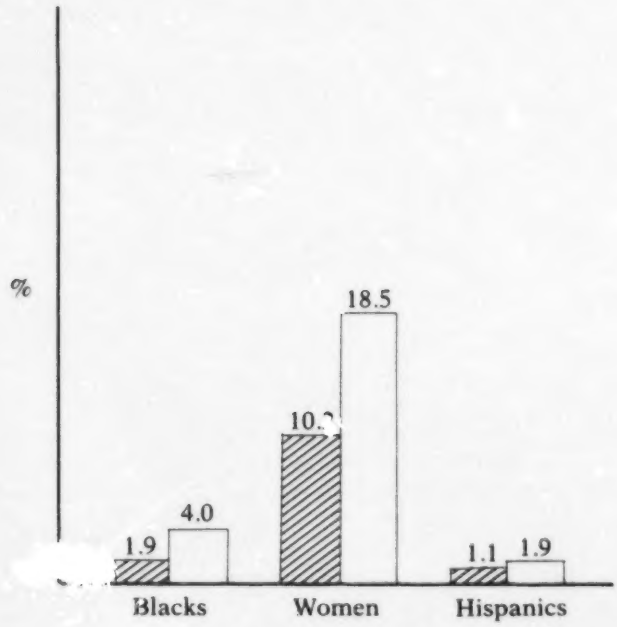
The other side of this coin is the rapid increase in the number of poor households headed by a female Black or Hispanic. Ninety percent of the increase in children born into poverty is from these households. Although two of three poor children are white, the percentage of Black children living with one parent who are poor is much higher, and those children who stay in poverty for more than four years (only one in three poor children does) are heavily Black. A child under six today is six times more likely to be poor than a person over 65. This is because we have increased support for the elderly, and government spending for poor children has actually DECLINED during the past decade. The result is an increase of over two million children during the decade who are "at risk" from birth. Almost half of the poor in the U.S. are children.

Today, we are a nation of 14.6 million Hispanics and 26.5 million Blacks. But by 2020 we will be a nation of 44 million Blacks and 47 million Hispanics—even more if Hispanic immigration rates increase. The total U.S. population for 2020 will be about 265 million people, a very small increase from our current 238 million—and more than 91 million of that figure will be minorities (and mostly young, while the mostly white Baby Boom moves out of the childrearing years

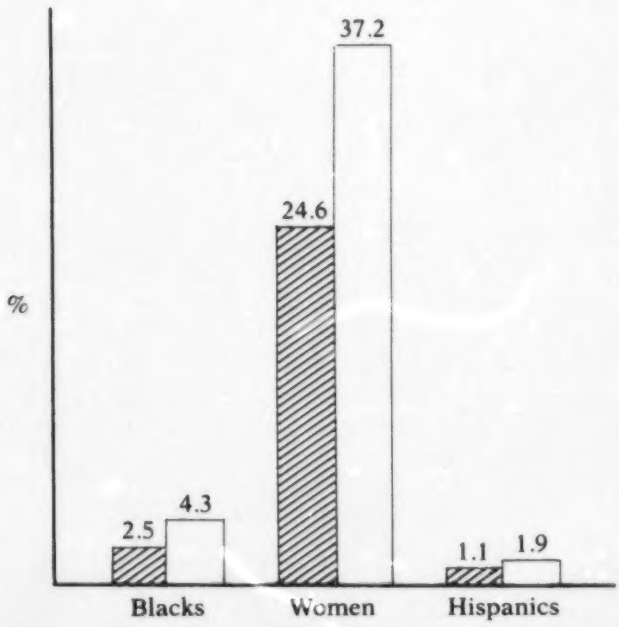
1970 –
1980 –

Exhibit 4

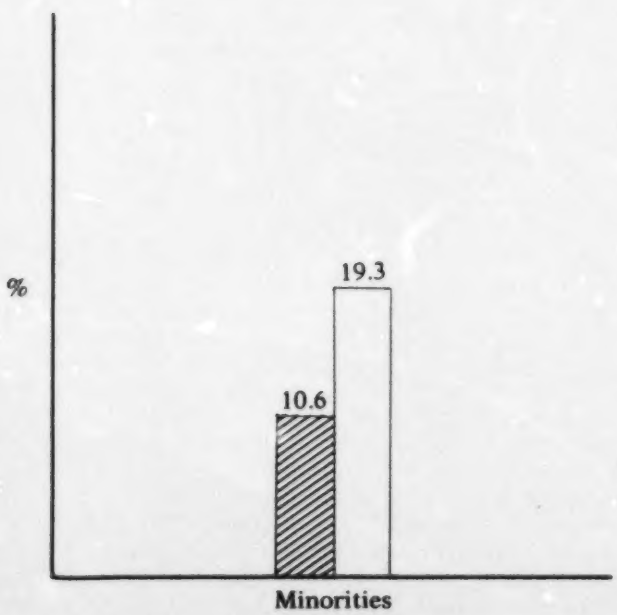
Officials & Managers



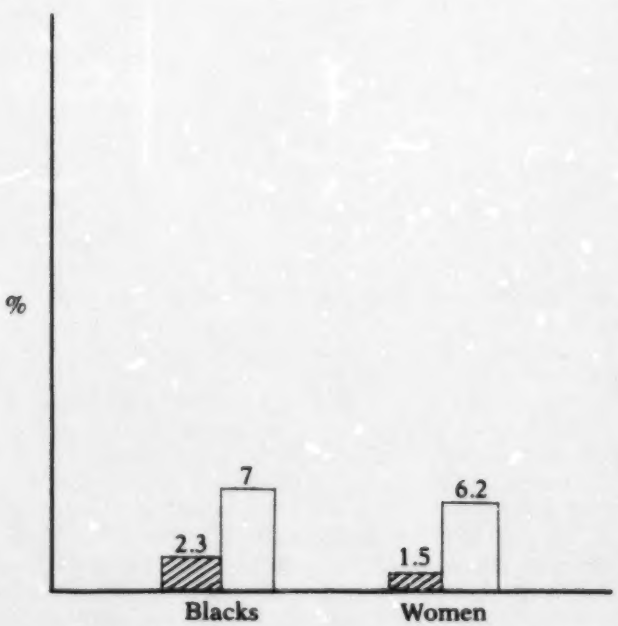
Professionals



Construction Trade Apprenticeships



Government Executives



by 1990, creating a "Baby Bust" that will again be mostly white, while minority births continue to increase).

We need to say a word about the third growing non-white sector of our nation, Asian-Americans. At the moment they are a much smaller group than Blacks and Hispanics (about 3.7 million in 1980), but their growth potential from immigration is very great for the next decade—they currently represent 44% of all immigrants admitted to the US. However, their diversity is very great:

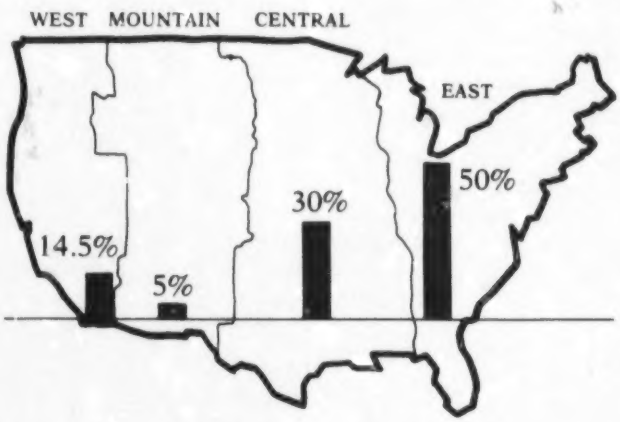
- Sixty percent of Asian-Americans are foreign-born, yet the average Japanese-American speaks English as his/her native language, while almost no Indochinese do.
- Almost 30% of Asian-Americans arrive in the U.S. with four years of college already completed—39% of all Asian-American adults are college graduates.
- Their SAT verbal scores are far below white averages; their math SAT scores are equally far above whites.
- Because of increased Indochinese immigration, language problems among Asian-American youth will increase.
- Asian-American youth are heavily enrolled in public schools; a high percentage graduate and attend college. (Although access to college is widespread, hiring and promotion discrimination against Asian-Americans is also common.)
- Because of their competence in math and the physical sciences, Asian-Americans represent a disproportionate share of minority students at many of the highest rated universities.

Most important, by around the year 2000, America will be a nation in which one of every THREE of us will be non-white. And minorities will cover a broader socioeconomic range than ever before, making simplistic treatment of their needs even less useful.

As we review this material, it is easy to be comforted by the data on increased access for minorities to good jobs, to political leadership, and to owning their own businesses. However, it is equally clear that what is coming toward the educational system is a group of children who will be poorer, more ethnically and linguistically diverse, and who will have more handicaps that will affect their learning. Most important, by around the year 2000, America will be a nation in which one of every THREE of us will be non-white. And minorities will cover a broader socioeconomic range than ever before, making simplistic treatment of their needs even less useful.

4. REGION: Although the "Sunbelt" has shown high increases in growth percentage, the U.S. is very much an Eastern-dominated nation and will remain so well past the year 2000. An easy way to see this is to look at the percentage of our 237 million population who reside in each of the four time zones:

Exhibit 5
Of 237 Million Population, Percentage that Resides in Each Time Zone



In 1985, we can see that the declines in the Middle Atlantic and New England states that were characteristic of the 70's have now been slowed—outmigration from most of these states has been matched by inmigration, leaving us with a new question: how do the people moving out compare with the people moving in? For example, Colorado is now the state with the highest percentage of its population possessing a college degree, but a very large number of these degrees were acquired in another state, at that state's expense, while Colorado has enjoyed the talents of the college graduates moving in.

In addition, the national decline of about 13% in public school students of the 1970-1980 decade breaks down to zero decline in about 12 "Sunbelt" states and over 25% in some "Frostbelt" states. There will be two major education agendas in the next decade: (1) planning for growth (kindergarten through graduate school) in 12 states, and (2) planning for continuing declines in secondary school populations in most of the rest. But few states with growth projections have noticed that the increased youth cohort is an increased MINORITY pool—"minority majorities" are possible in the next decade in the public schools of ten states.

In addition, the Bureau of Labor Statistics has stated that of the current group of college students, one in five will graduate and work in a job that requires no college education at all.

5. EDUCATION: The higher education system is facing some major problems in terms of the work which will be done by its graduates. For example, over 18,000 doctorates will be awarded in the humanities during the 1980's with only a "handful" of jobs available for them in teaching. Doctoral scientists and engineers are more employable, and their numbers have grown since 1973 by 52%, to 364,000. However, only one in eight is female, and they are mainly in biology (20%), sociology/anthropology (27%), and psychology (28%). Few minorities are represented: Blacks are only 1.3% of doctoral scientists, Hispanics 0.6%, while Asians were 7.7% although they are only 1.5% of the U.S. population. (And in all U.S. graduate engineering programs, 43% of the students are foreign students. Thirty-six percent of all math and computer science graduate students are foreign students.)

In addition, the Bureau of Labor Statistics has stated that of the current group of college students, one in five will graduate and work in a job that requires no college education at all. In 1972, one in seven workers had a college degree, while in 1982 one worker in four did. Our economy is very good at generating new jobs—but most of them are low-paying service jobs which require little education. The problem is not a decline in "quality" jobs, but rather an increase in the number of college graduates, from 575,000 per year entering the work force annually during the 1960's to 1.4 million college graduates going to work annually during the 1970's. The problem may be alleviated in the next decade due to the decline of about 5 million youth in the 18-24 year old cohort, which may bring educational supply and job demand into better balance.

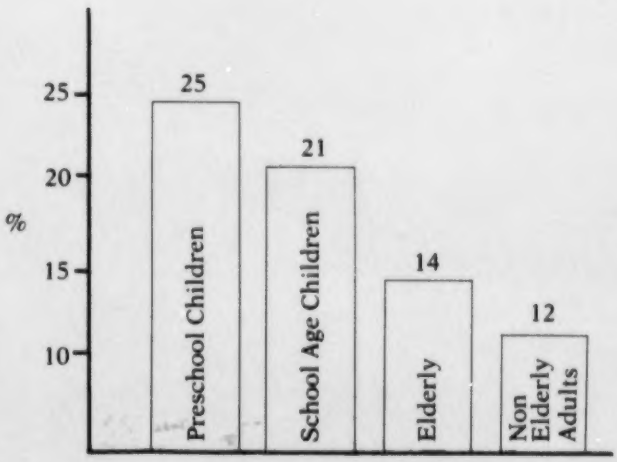
Our public schools have about finished a major season of state-based educational reforms. As of February, 1985:

- 43 states have strengthened high school graduation requirements, including 15 that require "exit tests" of high school seniors
- 14 states have adopted some version of "merit pay"
- 37 will lure the best college students into teaching through scholarships and other incentives
- Although standards have been made "tougher," only a handful of states have appropriated additional moneys for counselling and remediation for those who will need assistance in reaching the standards.

With the increased percentage of women (especially mothers) in the work force, the issues surrounding day care and early childhood education are coming to the fore. The successes of Head Start and similar programs have focussed new energy on the potential of early intervention programs for solving some of the educational and social problems that crop up later.

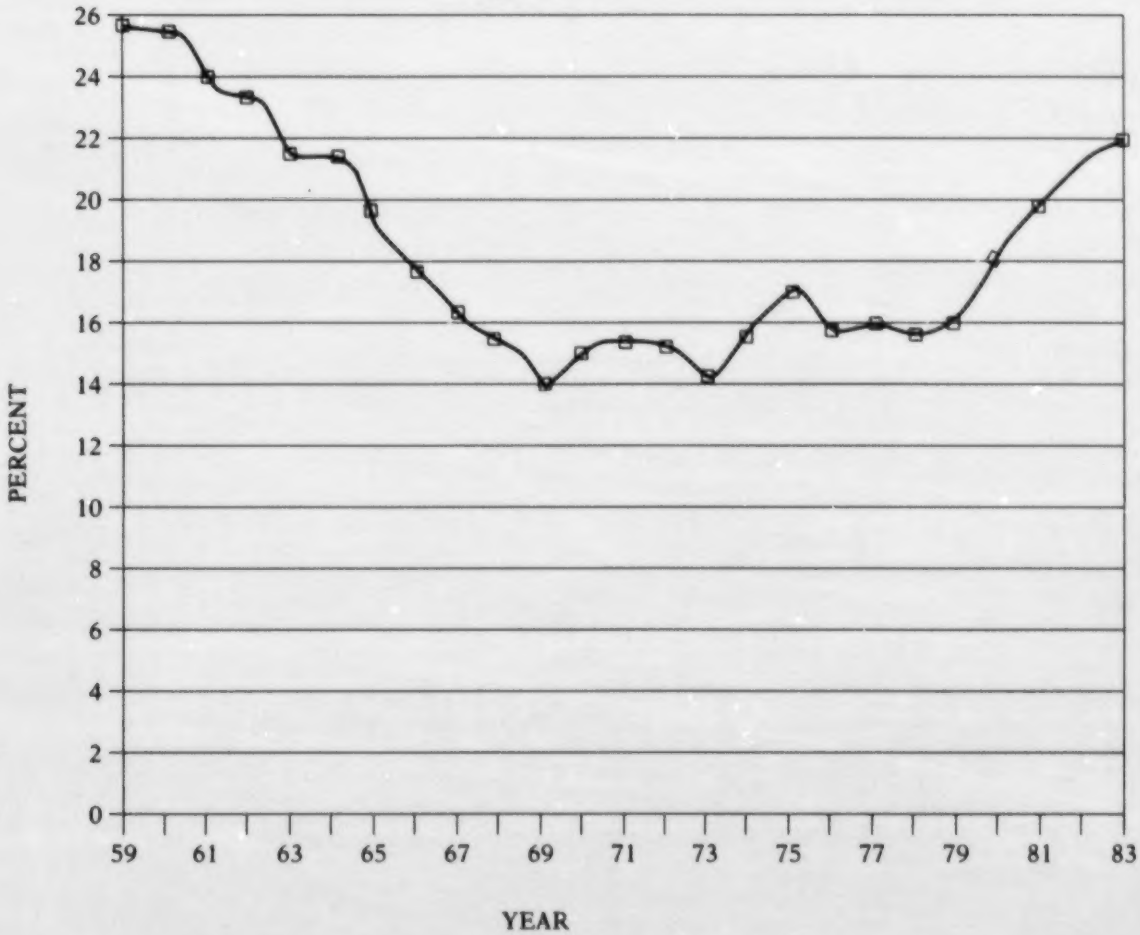
The number of youth eligible for Head Start type programs will increase in the next decade, as the number of children in poverty continues to expand. Poverty is more common among children than any other age group. In 1983, the poverty rate was:

Exhibit 6
Poverty Rate 1983



In 1983, 14 million children lived in poverty—about 40 % of the poor population. We have already seen that children in poverty come from certain kinds of households. In 1983, childhood poverty was 40% among ethnic minorities, but 14% among non-minority children. Fifty percent of children in female-headed households were in poverty compared to 12% in male-present households. Thirty percent of children in central cities were in poverty in 1983, but only 13% of children in non-central portions of cities. From 1959 to 1969, childhood poverty fell sharply, declining by about 6.5 million, despite an increase of 9% in the child population during the decade. From 1969 to 1979, childhood poverty increased, but slightly and erratically. From 1979 to 1983, however, the number of children in poverty grew by 3.7 million, and the rate grew from 16 to 22 percent, the highest level in 21 years. Although there was no decline in childhood poverty in 1983, such rates are quite dependent on economic conditions; if the present recovery continues it may be that childhood poverty will be reduced. The only thing we know with certainty is that the number of children eligible for Head Start type programs has increased by at least 1/3rd, while the programs are being level-funded in 1985.

Exhibit 7
Poverty Rate Among Children, Ages 0–17



NOTE: Rates slightly underestimated because of exclusion of older unrelated children and, since 1979, unrelated subfamilies. Rates before 1966 adjusted downward for consistency with later years. (Poverty Among Children, Congressional Budget Office, December 3, 1984).

Given the fact that only around 400,000 children are actually in Head Start, while at least three million are eligible, one of the best state strategies for improving their future would be the establishment of a state-wide Head Start system. Phasing in such a system might take a number of years, but no innovation could assure greater cost savings in terms of future services (prisons, drug control centers) that would not be needed. Head Start programs work.

To summarize the education consequences of demographic changes:

1. More children entering school from poverty households.
2. More children entering school from single-parent households.
3. More children from minority backgrounds.
4. A smaller percentage of children who have had Head Start and similar programs, even though more are eligible.
5. A larger number of children who were premature babies, leading to more learning difficulties in school.
6. More children whose parents were not married, now 12 of every 100 births.
7. More "latch-key" children and children from "blended" families as a result of remarriage of one original parent.
8. More children from teen-age mothers.
9. Fewer white, middle-class, suburban children, with day care (once the province of the poor) becoming a middle class norm as well, as more women enter the work force.
10. A continuing decline in the level of retention to high school graduation in virtually all states,, except for minorities.
11. A continued drop in the number of minority high school graduates who apply for college.
12. A continued drop in the number of high school graduates, concentrated most heavily in the Northeast.
13. A continuing increase in the number of Black middle class students in the entire system.
14. Increased numbers of Asian-American students, but with more from Indonesia, and with increasing language difficulties.
15. Continuing high drop-outs among Hispanics, currently about 40% of whom complete high school.
16. A decline in the number of college graduates who pursue graduate studies in arts and sciences.
17. A major increase in part-time college students, and a decline of about 1 million in full time students. (Of our 12 million students, only about 2 million are full time, in residence, and 18-22 years of age)
18. A major increase in college students who need BOTH financial and academic assistance. A great liaison between the offices of student financial aid and counseling will be essential.
19. A continuing increase in the number of college graduates who will get a job which requires no college degree. (Currently 20% of all college graduates.)
20. Continued increases in graduate enrollments in business, increased undergraduate enrollments in arts and sciences COURSES but not majors.
21. Increasing numbers of talented minority youth choosing the military as their educational route, both due to cost and direct access to "high technology."
22. Major increases in adult and continuing education outside of college and university settings—by business, by government, by other nonprofits such as United Way, and by for-profit "franchise" groups such as Bell and Howell Schools and The Learning Annex.
23. Increased percentage of workers with a college degree. (From one in seven to one in four today.)

Part Two: Retention to High School Graduation

The first and perhaps most important point to be made in this discussion is to point out the direct link between state level economic development and high school retention. In a state that retains a high percentage of its youth to high school graduation, almost every young person becomes a "net gain" to the state—with a high school diploma, there is a high probability of that person getting a job and repaying the state for the cost of his/her education, through taxable income, many times over. However, in a state with a poor record of retention to high school graduation, many youth are a "net loss" to the state, in that without a high school diploma, the chances of that student getting work, and thus repaying the state for that person's education, are very small indeed. Additionally, that young person is unlikely to leave the state, becoming a permanent economic burden to that state's economy.

The following table presents the top and bottom states in retention to high school graduation, along with two variables that do NOT predict retention levels:

	Retention		Teacher Salary	Per Pupil Expend.
Minnesota	# 1	(86.0%)	22nd	16th
North Dakota	2	(84.9%)	40th	40th
Iowa	3	(84.8%)	27th	24th
South Dakota	4	(82.8%)	47th	37th
Wisconsin	5	(82.3%)	8th	12th
Nebraska	6	(81.3%)	41st	21st
Montana	7	(80.9%)	28th	13th
Kansas	8	(80.5%)	36th	29th
Utah	9	(80.2%)	25th	45th
Wyoming	10	(80.0%)	6th	15th
		* * *		
California	41	(68.0%)	10th	22nd
Kentucky	42	(67.3%)	31st	46th
Alabama	43	(67.1%)	35th	46th
North Carolina	44	(67.1%)	29th	36th
Tennessee	45	(66.7%)	45th	48th
New York	46	(65.9%)	7th	2nd
Georgia	47	(64.3%)	33rd	49th
Florida	48	(63.7%)	32nd	27th
Louisiana	49	(63.4%)	39th	40th
Mississippi	50	(61.8%)	50th	50th

Certain things are obvious from these tables. A large majority of the high-retention states are located in the Midwest, a majority of the low retention ones are in the Southeast. Ethnic diversity is greater in the low retention states, which are also more urban. It also should be clear that neither teacher salary nor per pupil expenditure is a good indicator of a state's retention ability, while pupil-teacher ratio turns out to have a much better predictive level than either of the others. (The range for pupil-teacher ratio varies from 15.0 to 1 in Wyoming to 23.1 to 1 in California, while even greater variation can be obtained in big cities compared to suburbs, and elementary schools compared to high schools.) Why is teacher/student ratio related to retention when teacher salary and per pupil expenditure are not? The question needs further analysis.

We are more aware than ever that if large numbers of youth fail in school and work, the consequences for us all are severe.

In context, the retention data take on a different aspect. We have made great strides since the turn of the Century in increasing the educational level of our citizens—in 1900, only about 10% of the youth cohort graduated from high school. By 1950, 25% of Black youth and 56% of white were graduating, while in 1978, 75% of Black youth were graduating and 85% of whites. (Historical data on Hispanic youth is hard to come by, but it appears that today about 60% graduate from high school.) As a result of this major increase in "productivity," higher education benefitted doubly in the 1970's—once from the increased numbers of the Baby Boom, once again from the higher "yield" of high school graduates. In 1947, only about 28% of youth attended college, while today, more than 50% will attend some form of postsecondary education. In our entire population, the percentage with high school diplomas has risen from around 13% in 1910 to 24% in 1940, and 70% in 1981. Today, one in four workers has a college degree. This more highly educated adult population (and work force) has added greatly to the economic progress of our nation. We are more aware than ever that if large numbers of youth fail in school and work, the consequences for us all are severe.

High school drop-outs have a rather typical profile. They are usually from low-income or poverty settings, often from a minority group background (although not often Asian-American), have very low basic academic skills, especially reading and math, have parents who are not high school graduates and who are generally uninterested in the child's progress in school, and do not provide a support system for academic progress. English is often not the major language spoken in the home, and many are children of single parents. Drop-outs are heavier among males than females—males tend to leave school to get a job (which usually turns out to be a failure), while females tend to drop out in order to have a child. Drop-outs are generally bored in school, they perceive themselves accurately as failures in the school culture, and are usually very alienated from school.

Our survey of states[1] revealed that as of 1984, virtually no state passed "reform" legislation that con-

[1] "State Use of Demographic Data for Educational Planning." Available from IEL for $2.

tained specific plans to provide remediation to those who did not meet the higher standards on the first try—thus, almost all states were willing to have a higher drop-out rate from secondary schools in their state, even though the economic (leaving out the social) costs of this position will be very high indeed. Early in 1985, several states began to be responsive to this position, although a majority of the "reform" states have, in essence, moved up the high jump bar from four to six feet without giving any additional coaching to the youth who were not clearing the bar when it was set at four feet. This is bad coaching, and worse educational policy. Benjamin Bloom, noted psychologist, has been very convincing in showing that among the truly excellent performers in a wide range of fields from sports to music, natural talent is less of a factor than hard work and persistence. If we have standards we wish EVERY student to attain, some will require more assistance than others. The ideal is to have all students meeting the higher standards. Most states have not behaved as if they shared this ideal.

Eliminating low performers from the public schools was seen as a way of displacing the problem, not solving it. Out of school, these students present more of a social and economic problem than they do IN school.

Many localities, however, have developed excellent drop-out prevention programs. Particularly useful are the programs which combine intensive, individualized training in the basic skills with work-related projects. Vocational education and work-study strategies seem to work well, as does the "alternative high school" pattern. When the relation between education and work becomes clear, most of these potential drop-outs can be motivated to stay in school and perform at a higher level. (These work-related strategies are more likely to be successful with male students.)

The state survey that was a part of our project indicated a widespread sense that much more needs to be done in this area. Most frequently mentioned were programs that stress the basic skills, stimulating a more personal and caring attitude on the part of all staff in dealing with potential drop-outs, and identifying and intervening earlier in the education of potential drop-outs. More and more sophisticated counselling was mentioned often, as was a variety of efforts to coordinate the work of family, school and social welfare agencies in keeping potential drop-outs in school, and increasing their educational success.

We also discovered a widespread concern that the current spate of state-based "reform" legislation will only increase the group of push-outs to be added to the drop-outs. Eliminating low performers from the public schools was seen as a way of displacing the problem, not solving it. Out of school, these students present more of a social and economic problem than they do IN school. If there were other institutions that formed a "safety net" to catch the drop-outs from schools, one might feel differently about it. (The GED, for example, may be a useful device for some students who seize the initiative, but not all.) But no such safety net exists, at least for educational purposes.

There are times when the "definitive negative" assessment—this program NEVER works—could be more useful than the "ambiguous positive"—it might work but you can't tell.

Given the basically local nature of such drop-out prevention programs, there exists a major need to coordinate and share information on what works and why. If each of the 14,000 school districts has to begin their drop-out prevention program from scratch, much inventing of wheels will be done. Some characteristics of successful programs are not difficult to ascertain—small settings with low student-teacher ratios, personalized attention to student needs, materials and teaching formats that stress the immediate and practical, stress on the basic academic skills, and consistent patterns of rewarding student achievement. The hallmark of the "continuation school" seems always useful—a way of keeping in touch with the student after graduation, and particularly allowing the school to serve the needs of older students who have left school but wish to return for a diploma or GED. Different subcultures and regions will have to tailor these general notions to their area, but a large percentage of what works in one place will work in another. And in addition, if a program fails completely in one location, it is likely to do the same in others. (There are times when the "definitive negative" assessment—this program NEVER works—could be more useful than the "ambiguous positive"—it might work but you can't tell. The ideal recommendation might be "You could try A to F and see what works best for you, but don't try G—it NEVER works." Negative knowledge is very important in making a profession out of a field.)

One of the widely held views among educators interviewed in this project is that we intervene too late in the course of a student's development, that certain parts of the profile of a drop-out prone student may be visible as early as the third grade. To allow these sores to fester until the eleventh grade is to virtually guarantee that the student will drop out. Many of the newer day care approaches integrate meaningful learning even at pre-school levels, largely to increase the child's self-confidence as a learner and to begin preparation for basic skills teaching when the child enters school. Key to all of these early intervention programs is some form of home support. Not only is this important when there are cultural differences the school must negoti-

ate, but particularly with children who do not speak English, and in whose homes English is not spoken. This crucial problem seems to be easing somewhat with Mexican-Americans, as most of the "Spanish only" speakers are older adults, and an increasing number of youth report familiarity with English as well as Spanish. The problem intensifies, however, for Indochinese immigrants and their children, who often come to school having no familiarity with English.

Such programs are not inexpensive. But compared to the cost of neglect, (it costs about $25,000 to have a prisoner spend a year in a state penitentiary, about one-third of the cost of having a student at a state college), dealing with potential high school drop-outs early may turn out to be one of the biggest bargains available. It is important to observe that our position is not incompatible with high standards of student performance, we simply feel that every student should have the maximum opportunity to achieve these high standards.

What should we expect in terms of performance of schools in producing high school graduates? Certainly, each decade has yielded better returns than the previous decade, in terms of retention to high school graduation, while declines in academic achievement remain quite scattered by age, region, and ethnicity. There is no reason to say that other states could not do as well on retention as Minnesota, whose per pupil spending is no greater than many other states. If about 14% of white students are dropping out, and 24% of Black students, is there any reason to believe that the rates for Black students could not be moved to those for whites? And if 40% of Hispanics do not finish high school, is there any reason to believe that this number could not be cut to the 24 % Black rate, or to the 14% white rate? Females of whatever ethnic background drop out less than males—is there any reason to think that male rates could not be made to match those of females? The answer to all these question is NO—yet there are some clear indications that the decade of the 1980's will show a decline in retention for virtually every group discussed. Since 1980, the national figure for all students has declined from 76% high school graduation to 73%. The unintended fall-out from the spate of "excellence" state reforms will undoubtedly cut the number even further.

Few factors are emerging on the equity side, except for a number of locally developed and often very creative and productive programs to improve retention in public schools. These programs need to be put together into a coherent framework, both at the state and larger levels. The higher education community, instead of seeing this issue as a spectator sport, needs to get involved in trying to improve retention—after all, this will be their bread and butter very shortly. Organizations like the Education Commission of the States need to begin to encourage states to follow their reform legislation with implementing legislation to make sure that every youngster has a reasonable opportunity to achieve these new standards. To do so would be in everyone's best interests, both short and long term. As with a food chain, changes at one level in the educational continuum will have direct and predictable consequences for other levels in the "chain." Higher educational leaders have not been used to scanning the environment before them, particularly the educational environment. During the coming decade, this kind of information will be a necessity for any strategic planning in higher education. Similarly, public school leaders will have to be more acute in looking carefully at who is moving into and out of their district, and who is being born.

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The first point to be made is that enrollments in higher education have benefitted greatly from two factors—first, the 70 million Baby Boomers who have swollen college admissions for two decades; and second, a major increase in the percentage of youth who have graduated from high school and are thus in a position to attend college—from less than 50% in 1946 to 73% today. (But as the slope of the youth decline increases in most states in the years to come, and retention rates to high school graduation continue to drop, higher education will have to get used to getting a smaller percentage of a declining total.)

The range and diversity of higher education in the U.S. is a source of constant amazement—entering freshman at some institutions know more than graduating seniors from others.

For those who do graduate from high school (plus the increasing but somewhat invisible thousands who acquire the GED), there is SOME college or university that will probably accept them. The range and diversity of higher education in the U.S. is a source of constant amazement—entering freshmen at some institutions know more than graduating seniors from others. The B.A. is certainly not a learning "floor" that guarantees a minimum level of competence which all degree holders can exhibit. As long as each institution attracts the right student mix for its particular mission and level, the system seems to work quite well. Indeed, it thrives on diversity, which is fortunate given the diversity inherent in the U.S. population. Community colleges, for example, have a disproportionate enrollment of Black and Hispanic students, while on the other hand, the 1984 entering freshman class at the University of California, Berkeley was only 56% white! (The Berkeley situation is partially explained by its excellence in math and the physical sciences, and thus their minorities are heavily Asian-American.) UCLA also has become heavily non-white, without lowering its admissions standards at all. In fact, this fall's entering class at Harvard was 20% minority, and was selected from the top sixth of the applicant pool, whereas a decade ago Harvard was only 10% minority, and the students were selected from the top third. While doubling their selectivity, Harvard has doubled the number of minority students at the same time.

But when we leave the community colleges and the "blue chip" institutions, there is a large group of institutions, public and private, that have not increased their minority populations over the last decade. Given the decline in white graduates of secondary schools that faces us until at least 1994, these institutions will have to face up to some difficult decisions. However, comparatively few of these institutions will close, compared with the past—since 1900, we have closed about 200 institutions of higher education every two decades. However, we have founded almost as many new ones as closures, so that the institutional "net" remained fairly constant through the years. The makeup of institutions did go through a restructuring during the sixties and early seventies when we were opening a new community college every WEEK. In the next decade or two, closure rates will probably not be balanced out with starting rates—we will have more "deaths" than "births." Because of the great political difficulty in closing a public institution of higher education, a large number will continue to exist simply because they will not be allowed to die—the legislature will serve as their heart-lung machine. A very large number of state colleges, designed to serve the needs of a sector of a state, are simply not located near any population centers, yet for them, the issue will not be survival but significance. The most difficult problems will be institutions that got the "greatness" disease in the 1960's, added many unneeded graduate programs, and assumed that student enrollments would increase forever.

It is likely that as the number of high school graduates declines more steeply from now to 1994, and fewer students are spread across the same number of institutions, the commendable specificity of college catalogues and brochures may be lost, as some institutions try to attract anyone who is warm and breathing to their opening class.

The declines will be heavily suburban, 18-24 years old, full time, as well as white and middle class. Private colleges and universities, now enrolling about 22% of all students, will be the most "at risk," not only because they run a larger share of their budget from tuition revenues, but because "caps" on student financial aid will make the choice of a private college an impossible one for many middle class parents. However, the Congress at this writing has not been totally clear on cuts in student assistance.

It is our view that the access issue needs to be defined carefully—one criterion would be access to SOME institution of higher education; a second would be access to the BEST institution for that particular student. On the first criterion (thanks especially to com-

munity colleges) access has become virtually universal for any high school graduate, anywhere in the country, regardless of race, sex, age or class. On the second criterion, we undoubtedly have a long way to go, although access to the best institution can be improved by better institutional publicity at the college level so that the student knows what the institution expects, plus better guidance from secondary schools and employers, so that the student's aspirations are realistic and clear.

The question behind the question: why isn't higher education more appealing to America's minority high school graduates?

It is likely that as the number of high school graduates declines more steeply from now to 1994, and fewer students are spread across the same number of institutions, the commendable specificity of college catalogues and brochures may be lost, as some institutions try to attract anyone who is warm and breathing to their opening class.

At the same time, the very small number of "highly selective" institutions will probably be as selective as ever, perhaps even more so, and their pool of applicants is likely to be even more diverse by ethnicity, sex and class than before. For example, it may be quite normal today for the bright son of a Black college graduate to think of applying to Yale—good news for Yale, not such good news for the Black colleges, in that many of their best potential recruits are eagerly sought after by a number of other institutions.

Access discussions usually center on whether or not institutions of higher education are willing to admit high school graduates regardless of sex, ethnicity or class. By and large, access to SOME college or university is possible today for every high school graduate. But today, one out of eight "highly able" high school graduates chooses not to attend college. Twenty-nine percent more Blacks graduated from high school in 1982 than in 1975, but Black enrollment in college dropped 11% during the period. High school graduation rates for Hispanics increased 38% during the 1975 to 1982 period, while Hispanic college enrollment declined 16%.

The question behind the question: why isn't higher education more appealing to America's minority high school graduates? Access is a relatively meaningless idea if people are not interested in the thing to which access is allowed. We know little about why a larger number of minority high school graduates is producing a smaller number of college students. Declines in financial aid, lack of relationship between a college degree and a good job, inadequate high school counselling programs for minorities, are all mentioned as possible contributors. Many minority youth are fully aware that a college degree no longer guarantees access to a high level job. It may even be that many minority high school graduates will get a job for a few years after high school graduation, then enter some postsecondary program at a later date. It is certain that many talented minority youth are finding military service to be a very appealing way to gain further education, particularly in "high tech."

At the moment, most of this is hypothetical, but certainly some doubt can be cast on the notion that higher education is an essential part of the American Dream for an increasing number of bright and accomplished students of whatever ethnic background. This is certainly the kind of issue that should begin to draw together the various faculty, administrative and board leadership from schools and colleges to see what can be done to improve access, retention and performance at all educational levels. With a decline of about 5 million in the youth cohort, it would be in everyone's best interest to make the school-college transition easy and productive for the largest number of qualified students.

Lifelong learning is here today for about half of the American adult population—ready or not.

On the other hand, diversity is the American hallmark, and recent successes of the military and business worlds in their educational endeavors suggests a very different postsecondary world. Most institutions with which we are involved, from hospitals and local governments to museums and the workplace, today have an educational arm. Lifelong learning is here today for about half of the American adult population—ready or not. Colleges and universities are a part of this picture, but only a part (12 million of about 40 million people being educated past high school). Given the demography plus the disaggregation of the providers of educational services, the portion of the total pie for colleges and universities will continue to decline—they will have a relatively constant place in a rapidly expanding universe. At the moment, ten million workers are taking eighteen million courses a year, most of them offered "in-house" by the company's own education staff. This is a minimum figure.

The Baby Boom is now in the peak middle years of earning and learning. Adult education is the only growth component possible in postsecondary education. This universe will continue to expand until the Baby Boom begins to retire in 2000, but higher education will only develop a limited share of this area, which is appropriate in an increasingly diverse world of education producers and consumers.

Part Four: Retention to College Graduation

Studies done over the last twenty years affirm a central truth: of 100 students admitted to a four-year bachelors program, less than 50 (about 46) would graduate, on time, from the institution they entered. If one extends the time to seven years, about 70 of our original 100 would have graduated from SOME institution by that time. It seems important to point out that the "template" for undergraduate education (eight semesters of instruction straight through to graduation) has not been the path taken by even a simple majority of students over the years. Our response has tended to be criticizing part-time and older students with family and job responsibilities rather than revising the template so that the length of a student's education is variable. Often we show a fierce dedication to the TIME of an education while appearing confused about its CONTENT or OUTCOMES. But less than half of the undergraduate students seem to agree with the "straight through" principle.

We also know that unlike the high school drop-out, the college drop-out who is not a flunk-out tends to have as good a grade average as those who stay, often even better. Major reasons students give for dropping out of college are heavily financial, but this is sometimes the easist explanation for what may be a very complex issue. It would appear that many, if not most, drop-outs are in reality STOP-outs who simply have to do something else before resuming their studies.

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Yet they are often treated by the college or university as persons who have left higher education forever. At the moment, we have no effective and economical system to routinely track students who move from one campus to another, making the effectiveness of "retention" efforts difficult to assess if retention is taken to mean graduation from another institution than that in which the student originally enrolled. Some students SHOULD transfer, others SHOULD stop out for awhile, yet they are currently recorded as casualties.

The issue of retention to college graduation has focussed as an important one in the last several years, as institutions come to realize that even with a smaller freshman class, an improved retention rate can mean that the total student enrollment need not shrink, if a higher percentage of students stay for four years. (Indeed, one can raise some real questions about an institution with 1,000 freshmen, 500 sophomores, 200 juniors and 100 seniors, in the sense of community and solidarity, especially if the senior seminar of eight students is subsidized by the required freshman lecture course of 800.) Such systems seem designed to increase attrition, both due to the "sink-or-swim" attitude for freshmen and the over-indulged senior. One answer to this problem is to "front-load" the curriculum—provide more resources in the first year than the next three, in four-year programs, as recommended in the National Institute of Education report, "Involvement in Learning: Realizing the Potential of American Higher Education."[2]

. . . most potential drop-outs in academic difficulty are sending signals which no one can hear. This is because there is no standard faculty examination until the MIDDLE of the first term . . .

The largest number of drop-outs occur in the freshman year—very early in the first term, most potential drop-outs in academic difficulty are sending signals which no one can hear. This is because there is no standard faculty examination until the MIDDLE of the first term, by which time behaviors which impede proper study are already firmly in place. Some institutions are now using "early warning systems"—several small tests or written work required in the first two weeks for entering students. In this way, students who are having trouble will be told while there is still time to modify their study and classroom behavior. Some institutions have increased their retention considerably after developing such programs. Many drop-outs and flunk-outs are bright enough to do good college work, but have never learned how to study effectively, nor how to take tests and do good written work.

Given the realities of student mobility, and the fact that less than half of them do the "correct" thing of graduating "on time," it might be useful to consider an alternative strategy—converting drop-outs to stop-outs. In the stop-out strategy, the student is not seen as a total failure, but rather as someone who has some additional tasks to complete before the college program is completed. The goal is the development of a set of decision rules which guide the student into readiness to return to some college at some future time. In a carefully drawn program of this sort, the institution benefits by the student who may return at a later date to complete the work, and also by the kind of word-of-mouth praise for the college that this program can develop. (Many community colleges do this kind of program very well.)

Surprisingly, many standard indicators do not predict dropping out. High school rank in class and GPA

[2]A Final Report of the Study Group on the Conditions of Excellence in American Higher Education. Sponsored by the NIE. Presented to the Secretary of Education and the Director of the National Institute of Education. October 1984.

only predict about half the cases, and those mainly in the first college year. SAT scores have a small ability to predict college grades, and no ability to predict drop-outs. Having clear educational and vocational goals helps the college GPA prediction but doesn't tell us who will drop out. There are several good ones:

We are just entering an era in which youth will be in short supply in America.

students with good study habits stay in college; those whose needs are compatible with what the campus environment encourages also tend to stay.

Our earlier discussions would suggest that even more entry level students in the future will be in need of both financial and academic assistance. Although over 80% of institutions now report offering "remediation" courses and programs for entry level students, it is not clear what the level of financial and intellectual commitment to these programs is. In many cases, a teacher who works in the developmental area is not eligible for promotions and tenure, even though success in this role can be crucial to hundreds of students who can become successful college students with some support. Higher education may have to put additional human and dollar resources, as well as intellectual commitment, into this area in the future just to stay even on enrollments.

The task will be not to lower the standards but to increase the effort.

We are just entering an era in which youth will be in short supply in America. Fast food restaurants are one indicator of the future—virtually every one has a 'now hiring'sign in front. We are not fully used to having an excess of young people in America. If a new 19 year-old employee doesn't work out, fire him/her and get another, if a freshman doesn't work out, replace him/her with another, if the army recruit doesn't adapt, replace him/her, etc. For the next fifteen years at least, we will have to work harder with the limited number of young people we have to work with, whether we are in higher education, business or the military. If a young person fails the first time, we may have to help them succeed the second time rather than summarily replacing them. They will be scarce for a long time—as long as we live, there will be more people over 65 than teen-agers in America. How do we balance the interests of both?

The Bottom Line:

The rapid increase in minorities among the youth population is here to stay. We need to make a major commitment, as educators, to see that all our students in higher education have the opportunity to perform academically at a high level. There will be barriers of color, language, culture, attitude that will be greater than any we have faced before, as Spanish-speaking students are joined by those from Thailand and Vietnam. The task will be not to lower the standards but to increase the effort. To do so will be to the direct benefit of all Americans, as a new generation of people become a part of our fabric, adding the high level of energy and creativity that has always been characteristic of groups who are making their way in America. Their numbers are now so large that if they do not succeed, all of us will have diminished futures.
That is the new reality.